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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,330	03/27/2007	**Kenji Okada**	5404/125	6427

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,330	OKADA ET AL.	
	Examiner	Art Unit	
	/Susan W. Berman/	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/05,6/06,10/07,6/08,10/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-6, 18-20, 23 and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Al-Akhdar et al (6,777,459). Al-Akhdar et al disclose acylphosphine oxide photoinitiators for photoinitiating polymerization of ethylenically unsaturated compounds. Polymers having (meth)acrylate groups in side chains and backbones from ethylenically unsaturated monomers are taught in column 7, lines 45-55. Compounds such as copper stearates are added to enhance dark storage stability (column 9, lines 26-28). Cured shaped articles are discussed in column 16, line 46, to column 17, line 24. Thus compositions comprising a vinyl polymer having (meth)acrylate functional groups, a photoinitiator and a metallic soap are disclosed.

Claims 1, 3-6, 18-20, 23 and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Thurber et al (6,228,133). Thurber et al disclose dry powder particles comprising a radiation curable component and a metal salt of a fatty acid that provides excellent control over the curing process (column 3, lines 10-26). Radiation curable components including

(meth)acrylate groups in polymers are taught in column 6, lines 16-29. See embodiments 6-9 in column 8. Addition of silica is taught in column 5, lines 34-41.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 160 266 A1 in view of the Lammerting et al publication "Release Agents".

EP '266 discloses a method for producing a branched polymer by polymerizing a vinyl polymer containing one polymerizable carbon-carbon double bond. The macromer is produced by living radical polymerization, specifically atom transfer radical polymerization, facilitation production of branched polymers with controlled side chain molecular weights. The macromer can be polymerized by radiation or heat. See paragraphs [0014] to [0018]. EP '266 teaches using a transition metal complex as catalyst of atom transfer radical polymerization. Chain transfer agent is taught in paragraph [0039]. EP '266 teaches incorporating a lubricant, such as polyethylene wax [0130]. Use as a molding material is taught [0140]. Addition of a photoinitiator and irradiation is taught in Example 7-10. EP '266 does not mention adding a metallic soap.

Lammerting et al teach suitable release agents, or lubricants, to eliminate adhesion between surfaces in plastics processing. Metallic soaps are said to have better thermal stability and lubricating properties than waxes.

It would have been obvious to one skilled in the art at the time of the invention to substitute a metallic soap, as suggested by Lammerting et al, for the wax lubricant in the compositions disclosed by EP '266. EO '266 provides motivation by teaching addition of a lubricant such as polyethylene wax. Lammerting et al provide motivation by teaching that metallic soaps have better thermal stability and lubricating properties than waxes. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of improving the thermal stability and lubricating properties of the compositions disclosed by EP '266, as taught by Lammerting et al.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 160 266 A1 in view of the Lammerting et al publication "Release Agents", as applied to claims 1-25 and 27-30, and further in view of JP 2000160026. See the discussion of EP '266 and Lammerting et al above. JP '026 discloses moldable composition comprising a heat curing resin, a mineral filler including silica powder and a metallic soap as mold lubricant. It would have been obvious to one skilled in the art at the time of the invention to include a silica mineral filler, as disclosed by J '026 in the analogous molding materials disclosed by EP '266 in combination with Lammerting et al. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing a reinforcing filler to provide a suitable molding consistency to the molding compositions taught by EP '266.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wolf et al, in "Plastic, Additives" disclose that lubricants or mold-release agents control the frictional and adhesive properties of plastics during processing. Metal stearates of Zn, Ca, Pb, Al, Mg or Na are disclosed.

EP 1 059 308 discloses a vinyl polymer having terminal acrylate groups. The methods for preparing a vinyl polymer set forth in the instant claims are taught by EP '308 on pages 4-16. Addition of a photoinitiator is taught in [0094] and irradiation is taught in [0097]. Thermal initiators and thermal polymerization is taught in paragraphs [0099] and [0101].

Guzauskas (6,433,037) discloses molding compositions comprising acrylic resin, acrylate monomers, reinforcing fiber, initiator and additives such as internal mold releases, lubricants, waxes. Zinc stearates is used as a mold release agent in the Examples. Guzauskas does not teach acrylic polymers having acrylate functional groups.

Lau et al (6,753,359) disclose metal salts of fatty acid esters to provide powders that readily flow when heated at low processing temperatures. Lau et al do not teach acrylic polymers having acrylate functional groups.

Sagane et al (6,420,449) disclose resin compositions comprising a higher fatty acid and an acrylic copolymer. Higher fatty acids, such as metal stearates, give the resulting markings a brighter whiteness (column 3, line 33, to column 4, line 18). Acrylic copolymers are taught from

column 4, line 55, to column 7, line 64. Sagane et al do not teach acrylic polymers having acrylate functional groups.

Salamon (5,945,462) discloses coating compositions comprising (meth)acrylate-capped prepolymer, reactive diluent, non-reactive release agent and photoinitiator (column 3, lines 19-43). The release agents include metallic soaps (column 9, lines 27-40). The difference is that the acraylted polymers are polyurethanes.

Bohm et al (3,998,715) disclose radiation crosslinked polyvinyl chloride compositions comprising calcium stearate. The PVC does not contain (meth)acrylate groups.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB
3/17/2009

/Susan W Berman/
Primary Examiner
Art Unit 1796